



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/147,914 | 05/25/1999 | AHARON MEIR EYAL | U-012130-1 | 2425 |

7590 04/09/2002
LADAS & PARRY
26 WEST 61ST STREET
NEW YORK, NY 10023

EXAMINER

OH, TAYLOR V

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1625

DATE MAILED: 04/09/2002

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/147,914

Applicant(s)

EYAL ET AL.

Examiner

Taylor Victor Oh

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1623

Final Rejection

The Status of Claims

Claims 1-36 have been rejected.

Claim Rejections-35 USC 103

1. Applicants' argument filed 12-28-2001 have been fully considered but they are not persuasive.

Rejection of claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voelskow et al (US 4,467,034) in view of Hammond (WO 95/32301) and Walkup et al (US 5,252,473).

The rejection of claims 1-36 under 35 U.S.C. 103(a) as being unpatentable over Voelskow et al (US 4,467,034) in view of Hammond et al (WO 95/32301) and Walkup et al (US 5,252,473) is maintained for reasons of the record in paper no. 9.

In Response to Argument

Art Unit: 1623

2. Applicants argue the following issues:

- a. Voelskow et al and Hammond et al have failed to describe the instant invention which regenerates the cation exchanger without the consumption of a base or acid,
- b. Hammond et al have failed to teach the use of the cation exchanger in the present invention which is regenerated by reacting the cations carrying cation exchanger to convert it into a cation exchanger as partially in its acid form and to a second product to a basic form,
- c. Walkup et al have failed to supplement the deficiencies for the primary references because Walkup et al is directed to produce the purified lactic acid from the hydrolysis of lactic acid ester obtained from the CO₂ catalysis of ammonium lactate and alcohol solution and the Walkup et al's cation exchanger has no ion exchange role as in the claimed process.

The applicants' argument have been noted, but these arguments are not persuasive.

First of all, with regard to the failure of Voelskow et al and Hammond et al to describe the regeneration of the cation exchanger without the consumption of the base or acid, the Examiner has noted the argument. However, regarding to the absence of using the cation exchanger in the Hammond reference, the Hammond reference has been used to supplement the

Art Unit: 1623

primary reference by describing the method of using a column of an anion exchanger regenerated with alkali metal hydroxide to recover an acid as an alkali salt. For the failure of Voelskow et al to describe the regeneration of the cation exchanger without the consumption of the base or acid, this is directly related to the optimization of the process with the purpose of minimizing extra steps in the use of the cation exchanger. Therefore, if person having an ordinary skill in the art had wished to maximize the capacity of the cation exchanger without the consumption of the base or acid for the purification process of lactic acid, it would have been obvious for the skillful artisan to have modified Voelskow et al's cation exchanger in order to increase the efficiency of the overall process.

Secondly, concerning the failure of Hammond et al to teach the use of the cation exchanger in the present invention, the secondary Hammond reference has been used to supplement the primary reference by describing the method of using the column of the anion exchanger regenerated with alkali metal hydroxide to recover the acid as the alkali salt as well as the use of a column of a cation exchanger in hydrogen ion form to yield an organic acid (see page 1, lines 21-24). Furthermore, this is directly related to the optimization of the process with the purpose of minimizing extra steps in the use of the cation exchanger. Therefore, if person having an ordinary skill in the art had wished to maximize the capacity of the cation exchanger without the consumption of the base or acid for the purification process of lactic acid, it would have been obvious for the skillful artisan to have modified Hammond et al's cation exchanger in order to increase the efficiency of the overall process.

Art Unit: 1623

Thirdly, in reference to the failure of Walkup et al to supplement the deficiencies for the primary references because Walkup et al is directed to produce the purified lactic acid from the hydrolysis of lactic acid ester and Walkup et al's cation exchanger has no ion exchange role as in the claimed process, Examiner has noted the argument. However, the tertiary Walkup et al reference does disclose a process of producing not only esters of lactic acid, but also lactic acid which can be obtained directly from the first reaction process in which ammonium lactate produced by a fermentation process of carbohydrate materials (see col. 3 , lines 37-40) can be converted into NH_3 and lactic acid (see col. 5 , lines 65-67) ; furthermore, a simple distillation is recommended to purify the desired product (see col.14 , lines 53-57). Therefore, it does supplement the deficiencies for the primary references . Concerning the failure of Walkup et al's cation exchanger as no ion exchange role as in the claimed process, Examiner has noted the argument. However, the primary and secondary references do teach that particular role of the cation exchanger . Therefore, the Walkup et al reference is certainly relevant to the claimed invention.

Therefore, the Examiner maintains the rejection of all the claims.

Art Unit: 1623

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

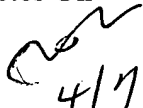
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. Victor Oh whose telephone number is (703) 305-0809. The examiner can normally be reached on Monday through Friday from 8:30 to 5:00.

Art Unit: 1623

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Killos , can be reached on (703) 308-0135. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4556.

T. Victor Oh


4/7/02


PAUL J. KILLOS
PRIMARY EXAMINER
Art 1623